

# PCT


## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

REC'D 10 NOV 2005

PCT

Applicant's or agent's file reference 155100.1 DAB		<b>FOR FURTHER ACTION</b>		See Form PCT/IPEA/416
International application No. PCT/IL2004/000730		International filing date (day/month/year) 05.08.2004		Priority date (day/month/year) 06.08.2003
International Patent Classification (IPC) or national classification and IPC G11B7/007				
Applicant MEMPILE INC et al.				
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 8 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input checked="" type="checkbox"/> sent to the applicant and to the International Bureau a total of 11 sheets, as follows:</p> <p><input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input checked="" type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>				
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the opinion</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input checked="" type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input checked="" type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>				
Date of submission of the demand  05.06.2005		Date of completion of this report  09.11.2005		
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465		Authorized Officer  Stemmer, M  Telephone No. +49 89 2399-2282		



**INTERNATIONAL PRELIMINARY REPORT  
ON PATENTABILITY**

International application No.  
PCT/IL2004/000730

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**Box No. I Basis of the report**

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1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language , which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
  - ☐ publication of the international application (under Rule 12.4)
  - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements\*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report):*

**Description, Pages**

1, 2, 4-11, 13-19, 21-26	as originally filed
12	filed with telefax on 05.06.2005
3, 3a, 3b, 20	filed with telefax on 26.09.2005

**Claims, Numbers**

1-38	filed with telefax on 26.09.2005
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**Drawings, Sheets**

1/29-29/29	as originally filed
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☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing

3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages
  - ☐ the claims, Nos.
  - ☐ the drawings, sheets/figs
  - ☐ the sequence listing (*specify*):
  - ☐ any table(s) related to sequence listing (*specify*):
4. ☒ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages
  - ☒ the claims, Nos. 6
  - ☐ the drawings, sheets/figs
  - ☐ the sequence listing (*specify*):
  - ☐ any table(s) related to sequence listing (*specify*):

\* If item 4 applies, some or all of these sheets may be marked "superseded."

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**Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability**

1. The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of:

☐ the entire international application,

☒ claims Nos. 6

because:

☒ the said international application, or the said claims Nos. 6 relate to the following subject matter which does not require an international preliminary examination (specify):

**see separate sheet**

☐ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. are so unclear that no meaningful opinion could be formed (*specify*):

☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.

☐ no international search report has been established for the said claims Nos.

☐ the nucleotide and/or amino acid sequence listing does not comply with the standard provided for in Annex C of the Administrative Instructions in that:

the written form

☐ has not been furnished

☐ does not comply with the standard

the computer readable form

☐ has not been furnished

☐ does not comply with the standard

☐ the tables related to the nucleotide and/or amino acid sequence listing, if in computer readable form only, do not comply with the technical requirements provided for in Annex C-*bis* of the Administrative Instructions.

☐ See separate sheet for further details

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**Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

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1. Statement

Novelty (N)	Yes: Claims	4,5,7-19,21-38
	No: Claims	1-3,20
Inventive step (IS)	Yes: Claims	4,5,12, 13, 18, 19, 37, 38
	No: Claims	1-3,7-11,14-17,20-36
Industrial applicability (IA)	Yes: Claims	1-38
	No: Claims	

2. Citations and explanations (Rule 70.7):

**see separate sheet**

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**Box No. VII Certain defects in the international application**

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The following defects in the form or contents of the international application have been noted:

**see separate sheet**

**Re Item III**

**Non-establishment of opinion with regard to novelty, inventive step and industrial applicability**

1. Claim 6 presently on file has been amended by introducing the feature "for each subsequent data layer L ( $2 \leq L \leq M$ ), focusing the reading head in controlled registration with a previous data layer (L - 1) and writing data to said data layer (L) so as to, be displaced from the previous data layer (L - 1) by said controlled offset". This feature goes beyond the disclosure of the application as originally filed.  
Claim 6 is therefore disregarded for the statement under Item V (Rule 70(2)(c) PCT).

**Re Item V**

**Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Reference is made to the following document:

D1: US-B1-6 574 174 (NISHIMURA SHUNICHI ET AL) 3 June 2003 (2003-06-03)  
D2: WO 97/23872 A (THOMSON CSF ; LE CARVENNEC FRANCOIS (FR);  
HUIGNARD JEAN PIERRE (FR); P) 3 July 1997 (1997-07-03)  
D5: US-A-6 122 133 (NAZARIAN ARA W ET AL) 19 September 2000 (2000-09-19)

2. The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claims 1-3, 20 is not new in the sense of Article 33(2) PCT and further the subject-matter of claims 7-11, 14-17, 21-36 does not involve an inventive step in the sense of Article 33(3) PCT.
- 2.1 As for independent claim 1 the document D2 discloses (the references in parentheses applying to this document):  
A formatted optical medium (figs 2a, 3b, and 4a - 5 and corresponding description) having a formatting pattern (fig. 2b with p 3 l 32 - p 4 l 13; fig. 5 p 5 l 27 - p 6 l 16) including registration marks (figs. 2b and 5 m1, m2 and 7, 8) for enabling data to be written to or read from a desired location (cf. fig. 2a 'information de guidage' 4) in a monolithic bulk (2) of the optical medium, said registration marks being arranged in at

least one base layer (S1,S2,S3); wherein the at least one base layer (S1,S2,S3) is formed within a bulk (2) of the optical medium displaced from an outer surface thereof.

The subject-matter of claim 1 is therefore not new in the sense of Article 33(2) PCT.

- 2.2 As for claim 2 D2 further discloses that when in use, the at least one base layer serves as a guide (4) for writing data at respective data layers in the medium associated with the at least one base layer without requiring pre-formatting of said data layers (p 3 | 20-31).

The subject-matter of claim 2 is therefore not new in the sense of Article 33(2) PCT.

- 2.3 As for claim 3 D2 further discloses that wherein respective registration marks are contained in multiple base layers (S1,S2,S3) all formed within a bulk of the optical medium displaced from an outer surface thereof, such that adjacent base layers have a known mutual separation and each base layer in use, serves as a guide for writing data at respective multiple data layers in the medium associated with the respective base layers (p 3 | 20-31).

The subject-matter of claim 3 is therefore not new in the sense of Article 33(2) PCT.

- 2.4 The combination of the features of dependent claims 4 respectively 5 is neither known from, nor rendered obvious by, the available prior art.

The reasons are as follows:

The purpose is to code additional information (cf description p 12-13). None of the available prior art discloses nor renders obvious such a combination of features.

The subject-matter of claims 4 respectively 5 is thus considered both novel and inventive (Art 33(2) and (3) PCT).

This applies mutatis mutandis to claims 12, 13, 18, 19, 37, 38.

- 2.5 The formatter stipulated in claim 7 is considered to be implicitly disclosed by D2 seen the disclosure of the formatted optical medium (PCT Guidelines 12.01 and 12.04). The feature of a controller for controlling fluctuations in ambient conditions in order to attenuate formatting variations caused thereby appears obvious.

The subject-matter of claim 7 can therefore not be considered as involving an inventive step (Article 33(3) PCT).

- 2.6 As for the formatters stipulated in claims 8-11 and the optical media stipulated in claims 14-17 the additional features are considered either implicitly disclosed by D2 or rendered obvious by a combination of the disclosure of D2 with the teaching of D1.

The subject-matter of claim 8-11 and 14-17 can therefore not be considered as involving an inventive step (Article 33(3) PCT).

- 2.7 As for claim 20 D2 further discloses :
- a tracking and formatting system for tracking data stored in a 3D formatted monolithic optical medium, said tracking and formatting system comprising:
    - an optical unit (D2 fig. 4a EL and EI1 - EI3 page 4 line 23 - page 5 line 5) adapted to focus at least two laser beams of possibly mutually different wavelengths at respective points in the optical medium having a controlled mutual displacement, so as to form a read spot that is used to obtain a read signal from the optical medium and a write spot that is used for recording registration marks for enabling data to be written to or read from a desired location in the optical medium, said registration marks being arranged in at least one base layer formed within a bulk of the optical medium displaced from an. outer surface thereof,
    - a non-position sensitive detection unit (D2 whole document 'lecture optique d'information') coupled to the tracking unit and being responsive to the tracking signal. generated thereby for reading data marks stored in data layers of said optical medium independent of a spatial structure of the detection unit, and
    - a tracking unit for (D2 whole document 'suivi de piste') generating a. tracking signal that conforms to the formatting pattern in said formatted optical medium to enable calculation of a tracking error S signal that is used as feedback for servo-mechanisms

that control the precise location of a read spot according to said formatting pattern, said tracking unit being responsive to the read spot for tracking an information track in a layer that is at least partially recorded and/or servo marked (see also paragraph 2.1 above).

The subject-matter of claim 20 is therefore not new in the sense of Article 33(2) PCT.

- 2.8 The further formatting systems defined in dependent claims 21-36 are not new resp. inventive with respect to the record carriers, formats, formatters and tracking/formatting systems shown in D1 (see the description relating to record carrier in fig. 22 and formats in figs. 15A -21 and figs. 23A- 23B) or D2 (see above paragraphs 2.7). These claims merely define straightforward embodiments and possibilities from which the skilled person would select, in accordance with circumstances, without the exercise of inventive skill, in order to solve the problem posed. Most of the additional features are disclosed or suggested by the prior art at hand. Moreover, the description does not disclose what specific advantages these additional features might imply. Therefore, these claims add nothing inventive. Finally, the dependent claims are obviously not linked by one single general inventive concept (Rule 13 PCT). In particular it has to be noted that:
- the tracking-error signal extraction from the known burst marks defined in claims 26 and 28 is already described in document D5 (cited in the present application) for said marks; hence, the subject-matter of dependent claims 26 and 28 merely reflects an obvious standard and is not inventive.

#### **Re Item VII**

#### **Certain defects in the international application**

1. Independent claims 1, 6, 7, 20 are not drafted in the two part form specified in Rule 6.3b) of the PCT.
2. Reference numerals are missing after the technical features of the claims (see Rule 6.2b) and PCI Preliminary Examination Guidelines, Chapter III, 4.11).